

Amendments to the Claims:

This “Listing of Claims” will replace all prior versions, and listings, of claims in the application:

1. Previously Canceled.

2. (Currently Amended) The apparatus of Claim 9 14, further comprising means for displaying the output signal from said load cell, the means for displaying providing the user with an indication of the amount of compression placed on the load cell, the compressive force being directly related to the amount of tension in the thread.

3. Canceled.

4. (Currently Amended) The apparatus of Claim 9 2, further comprising:
a mounting shaft projecting from the housing, the shaft having a proximal and distal a end, and

a manipulator knob connected to the distal end of the shaft, and wherein the load cell, clamping members, and force member each have a central aperture for slidably mounting each on the support shaft between the housing and the knob.

5. (Original) The apparatus of Claim 4 wherein the clamping members each comprise a circular disc, and the force member comprises a helical coil spring.

6. Previously Canceled.

7. Canceled.

8. Previously Canceled.

9. Canceled.

10. (Previously Presented) A thread tension adjusting apparatus for adjusting and monitoring the tension of a supplied thread in a sewing machine, comprising:

a partially threaded mounting shaft, which projects from the sewing machine,

a pair of thread clamping members slidably disposed in juxtaposed relation on said shaft, one clamping member being juxtaposed against the sewing machine,

a cylindrical spacer slidably disposed on said shaft in juxtaposed against the other clamping member, and

a force member for compressing the clamping members, said force member comprising a pneumatically controlled actuator having an actuator rod fixedly connected to the distal end of said shaft and an actuator body, said actuator rod being adapted to undergo axial reciprocating movement relative to the actuator body with axial reciprocating movement of the actuator shaft moving the actuator body towards and away from the thread clamping members and placing the clamping members under increased or decreased compression, respectively, to increase or decrease the compressive grip of the clamping members on the thread and the tension in the thread passing between the thread clamping members.

11. (Currently Amended) A thread tension adjusting apparatus for adjusting and monitoring the tension of a supplied thread in a sewing machine, comprising:

a partially threaded mounting shaft, which projects from the sewing machine,

a spacer fixedly connected to the distal end of said shaft,

a pair of thread clamping members slidably disposed in juxtaposed relation on said shaft and interposed between said spacer and said sewing machine, and

a force member adapted to undergo axial reciprocating movement relative to the spacer and said sewing machine with axial reciprocating movement moving the force member into and away from engagement with the thread clamping members and placing a thread passing between the clamping members under increased or decreased compression, wherein

said force member comprises a pneumatically controlled actuator, said actuator including an actuator body connectible to a compressed air source, and

said spacer comprises an actuator rod adapted to undergo axial reciprocating movement relative to the actuator body with axial reciprocating movement of the actuator rod moving the

actuator body towards and away from the thread clamping members and the clamping members towards and away from engagement with the sewing machine, the reciprocating movement placing the clamping members under increased or decreased compression, respectively, to increase or decrease the compressive grip of the clamping members on the thread and the tension in the thread passing between the thread clamping members.

12. Canceled.

13. (Presently Amended) The thread tensioning apparatus of Claim 12 11, further comprising:

a pneumatic pressure sensing device, said pressure sensing device being connectible to the pressure source and said pneumatically controlled actuator and including

means for regulating the pressure of the compressed air supplied to the pneumatically controlled actuator,

electronic circuitry, said circuitry for converting the pneumatic pressure value of the connected air source to an electrical signal, comparing the converted signal to reference values, and providing an electrical output which corresponds to the conformance or nonconformance of the electrical signal to established reference values, and

means for monitoring and displaying the actual pneumatic pressure being supplied to the pneumatic sensing device.

14. (New) A thread tensioning apparatus for adjusting and monitoring the tension in a thread passing through a sewing machine during a stitching operation, comprising:

a pair of clamping members movably mounted in juxtaposition with one another, the clamping members being movable towards one another and into clamping relation with the thread passing therebetween during the stitching operation,

an electromechanical compression load cell disposed in contacting relation against one of said clamping members, said load cell being separate and apart from said clamping members and operable under compression to generate an output signal representative of the compressive load placed on said load cell and the tension in said thread,

a comparator for receiving and comparing the output signal to a predetermined value representative of a desired thread tension and providing a command signal to indicate that the clamping pressure against the thread and thus the tension in the thread is not in conformance with the desired tension,

a force member for biasing the other of said clamping members towards said one clamping member and against said thread, said thread being squeezed between said clamping members and said one clamping member being forced against said load cell wherein to place a compressive force on said load cell,

adjusting means for increasing or decreasing the compressive force applied by said force member against said load cell, said adjusting means being in operable relation with said comparator means, and

wherein when the comparator generates a command signal that the tension in the thread is not in conformance with the desired tension the adjusting means increases or decreases the compressive force on the thread to adjust the tension in the thread as needed.

15. (New) A tensioning device for a sewing machine for monitoring and adjusting the tension in a thread passed through the machine during a stitching operation, which comprises:

a support shaft having proximal and distal ends, respectively, connected to and spaced from a support wall of the sewing machine,

a ring shaped electromechanical load cell, the load cell being mounted on said shaft and disposed next to said support wall,

a pair of centrally apertured disc members, the discs being mounted on said shaft with one said disc being disposed against said load cell, the thread being routed between and engaged by the discs,

an adjustment knob threadably connected to the distal end of said support shaft,

a resilient helical coil spring disposed about said shaft, said spring having opposite end portions with one and the other of said end portions, respectively, engaging the other of said disc members and said adjustment knob, movement of said knob towards said support wall driving said spring and said disc members against the load cell and compressing said load cell, said

load cell, when compressed, being operable to generate an output signal representative of the amount of tension placed on the thread, and

means for receiving and displaying said output signal.